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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,026	12/12/2003	James Blair Chapman	11235	2461
7590	11/14/2006		EXAMINER	
John D. Cowart Teradata Law IP, WHQ-4W NCR Corporation 1700 S. Patterson Blvd. Dayton, OH 45479-0001			PHAM, HUNG Q	
			ART UNIT	PAPER NUMBER
			2168	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/735,026	CHAPMAN, JAMES BLAIR
	Examiner	Art Unit
	HUNG Q. PHAM	2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 August 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-26 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to the rejection of claims 1-26 under 35 U.S.C. § 112, 102 and 103 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention is directed to non-statutory subject matter because the claim does not require any physical transformation, and the invention as claimed does not produce a useful, and tangible result in view of MPEP 2106 (IV)(C)(2)((B))((2))(a) and (b)¹.

¹ MPEP 2106 (IV)(C)(2)((B))((2))(a) and (b):

For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. MPEP § 2107 and Fisher, 421 F.3d at 1372, 76 USPQ2d at 1230 (citing the Utility Guidelines with approval for interpretation of "specific" and "substantial"). In addition, when the examiner has reason to believe that the claim is not for a practical application that produces a useful result, the claim should be rejected, thus requiring the applicant to distinguish the claim from the three 35 U.S.C. 101 judicial exceptions to patentable subject matter by specifically reciting in the claim the practical application. In such cases, statements in the specification describing a practical application may not be sufficient to satisfy the requirements for section 101 with respect to the claimed invention. Likewise, a claim that can be read so broadly as to include statutory and nonstatutory subject matter must be amended to limit the claim to a practical application. In other words, if the specification discloses a practical application of a section 101 judicial exception, but the claim is broader than the disclosure such that it does not require a practical application, then the claim must be rejected.

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that judicial exception to produce a real-world result.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 11, 18 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As in claim 1, the clause *the buffer* (line 6) references to other items in the claim. It is unclear what item is being referenced.

As in claim 11, the clause *the buffer* (line 6) references to other items in the claim. It is unclear what item is being referenced.

As in claim 18, the clause *the buffer* (line 6) references to other items in the claim. It is unclear what item is being referenced.

As in claim 26, the clause *the buffer* (line 14) references to other items in the claim. It is unclear what item is being referenced.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-20 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ross [USP 5,666,525].

Regarding claims 1 and 18, Ross teaches a method for redistributing data in a relational data base management system, comprising:

allocating a buffer associated with a transmitting processing module (Col. 5 Lines 1-5 and Col. 6 Lines 13-18, available memory as *a buffer* is allocated, the available memory is associated with a write operation as *transmitting processing module*), *the transmitting processing module having access to a program, the program capable of managing a redistribution of one or more rows associated with one or more database tables* (Col. 6 Lines 22-29, the write operation having access to the flush operation as a program, the flush operation is *capable of managing a redistribution of one or more rows associated with one or more database tables*);

comparing the allocated buffer to a portion of the buffer to be occupied by the one or more rows (Col. 5 Lines 18-21);

if the allocated buffer is larger than the portion of the buffer to be occupied by the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, "the number of buffers is determined by the total number and size of unique selected records. If the total size of the records to be read from a second input table during a join of two tables is three times the size of the available memory, the

Art Unit: 2168

memory will be partitioned into three buffers". In different words, if the total size of the records is less than the size of the available memory, the memory will not be partitioned):

storing one or more rows of a database table in the allocated buffer (Col. 6 Lines 13-15, because the total size of the records is less than the size of the available memory, the *one or more rows of a database table* is written to the available memory);

communicating a message to one or more destination processing modules, the message comprising at least some of the one or more rows stored in the allocated buffer (Col. 6 Lines 30-45, the records from the available memory is flushed to disk as *message comprising at least some of the one or more rows stored in the allocated buffer* for storing in an output file. The storing operation is considered as *one or more destination processing modules*);

otherwise:

executing a many-rows method to redistribute the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, the partitioning method is considered as *a many-rows method to redistribute the one or more rows* as disclosed from Col. 5 Line 60 to Col. 6 Line 45).

Regarding claims 1 and 18, Ross teaches a method for redistributing data in a relational data base management system, comprising:

allocating a buffer associated with a transmitting processing module (Col. 5 Lines 1-5 and Col. 6 Lines 13-18, available memory as *a buffer* is allocated, the available memory is associated with a write operation as *transmitting processing module*), *the transmitting processing module having access to a program, the program capable of managing a redistribution of one or more rows associated with one or more database tables* (Col. 6 Lines 22-29, the write operation having access to the flush operation as a program, the flush operation is *capable of managing a redistribution of one or more rows associated with one or more database tables*);

comparing the allocated buffer to a portion of the buffer to be occupied by the one or more rows (Col. 5 Lines 18-21);

if the allocated buffer is larger than the portion of the buffer to be occupied by the one or more rows :

storing one or more rows of a database table in the allocated buffer ;

communicating a message to one or more destination processing modules, the message comprising at least some of the one or more rows stored in the allocated buffer (Because the available memory is smaller than the total size of record, the method go to otherwise condition);

otherwise:

executing a many-rows method to redistribute the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, the partitioning method is considered as *a many-rows method to redistribute the one or more rows* as disclosed from Col. 5 Line 60 to Col. 6 Line 45).

Regarding claims 10 and 25, Ross teaches a method and system for redistributing data in a relational data base management system, comprising:

invoking a program on one or more of a plurality of transmitting modules, the program capable of managing of one or more rows associated with one or more database tables (Col. 4 Line 64-Col. 5 Line 1);
if the program was invoked on a single transmitting module; executing a few-rows redistribution method to redistribute the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, “the number of buffers is determined by the total number and size of unique selected records. If the total size of the records to be read from a second input table during a join of two tables is three times the size of the available memory, the memory will be partitioned into three buffers”. In different words, if the total size of the records is less than the size of the available memory, the memory will not be partitioned and be considered as *single transmitting module*. As disclosed at Col. 6 Lines 13-15, because the total size of the records is less than the size of the available memory, the *one or more rows of a database table* is written to the available memory);

otherwise; executing a many-rows redistribution method to redistribute the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, the partitioning method is considered as a many-rows method to redistribute the one or more rows as disclosed from Col. 5 Line 60 to Col. 6 Line 6).

Regarding claims 2 and 12, Ross teaches all the claim subject matters as discussed above with respect to claims 1 and 11, Ross further discloses *the message comprises all of the one or more rows stored in the allocated buffer* (Col. 6 Lines 30-45).

Regarding claims 3, 13 and 19, Ross teaches all the claim subject matters as discussed above with respect to claims 1, 11 and 18, Ross further discloses *the transmitting processing module comprises one of a plurality of processing modules associated with a relational database system* (Col. 6 Lines 13-18).

Regarding claims 4, 14 and 20, Ross teaches all the claim subject matters as discussed above with respect to claims 1, 11 and 18, Ross further discloses *the message is communicated to each of a plurality of destination processing elements* (Col. 6 Lines 30-45).

Regarding claims 6, 16 and 22, Ross teaches all the claim subject matters as discussed above with respect to claims 1, 10 and 18, Ross further discloses *the many-rows method comprises: communicating from one or more transmitting processing modules a first signal to a plurality of processing modules within a relational database system, the first signal operable to initiate a row receiver task on each of the processing modules; from one or more of the processing modules a ready-to-receive signal to the one or more transmitting processing modules; communicating from the one or more transmitting processing modules a second signal comprising the one or more rows associated with the database table; after communication of the last row associated with the database table, communicating from the one or more transmitting processing*

modules an end-of-data signal to each of the plurality of processing modules (Col. 5 Line 60 to Col. 6 Line 45).

Regarding claims 7 and 23, Ross teaches all the claim subject matters as discussed above with respect to claims 1 and 18, Ross further discloses *invoking the program on a single transmitting processing module* (As disclosed by Ross at Col. 5 Lines 13-21, if the total size of the records is less than the size of the available memory, the memory will not be partitioned and be considered as *single transmitting module*).

Regarding claim 8, Ross teaches all the claim subject matters as discussed above with respect to claim 1, Ross further discloses the step of *receiving at each of a plurality of destination processing elements a substantially similar set of the one or more rows stored in the allocated buffer* (Col. 6 Lines 30-45).

Regarding claims 9, 15 and 24, Ross teaches all the claim subject matters as discussed above with respect to claims 1, 11 and 18, Ross further discloses the step of *determining a number of rows to store in the allocated buffer* (Col. 5 Lines 1-21).

Regarding claim 11, Ross teaches all the claim subject matters as discussed above with respect to claim 10, Ross further discloses the steps of
allocating a buffer associated with a transmitting processing module (Col. 5 Lines 1-5 and Col. 6 Lines 13-18, available memory as *a buffer* is allocated, the available memory is associated with a write operation as *transmitting processing module*), *the transmitting processing module having access to a program, the program capable of managing a redistribution of one or more rows associated with one or more*

database tables (Col. 6 Lines 22-29, the write operation having access to the flush operation as a program, the flush operation is *capable of managing a redistribution of one or more rows associated with one or more database tables*);

comparing the allocated buffer to a portion of the buffer to be occupied by the one or more rows (Col. 5 Lines 18-21);

if the allocated buffer is larger than the portion of the buffer to be occupied by the one or more rows

(As disclosed by Ross at Col. 5 Lines 13-21, “the number of buffers is determined by the total number and size of unique selected records. If the total size of the records to be read from a second input table during a join of two tables is three times the size of the available memory, the memory will be partitioned into three buffers”. In different words, if the total size of the records is less than the size of the available memory, the memory will not be partitioned):

storing one or more rows of a database table in the allocated buffer (Col. 6 Lines 13-15, because the total size of the records is less than the size of the available memory, the *one or more rows of a database table* is written to the available memory);

communicating a message to one or more destination processing modules, the message comprising at least some of the one or more rows stored in the allocated buffer (Col. 6 Lines 30-45,. the records from the available memory is flushed to disk as *message comprising at least some of the one or more rows stored in the allocated buffer* for storing in an output file. The storing operation is considered as *one or more destination processing modules*);

otherwise:

executing a many-rows method to redistribute the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, the partitioning method is considered as *a many-rows method to redistribute the one or more rows* as disclosed from Col. 5 Line 60 to Col. 6 Line 45).

Regarding claim 11, Ross teaches all the claim subject matters as discussed above with respect to claim 10, Ross further discloses the steps of:

allocating a buffer associated with a transmitting processing module (Col. 5 Lines 1-5 and Col. 6 Lines 13-18, available memory as *a buffer* is allocated, the available memory is associated with a write operation as *transmitting processing module*), *the transmitting processing module having access to a program, the program capable of managing a redistribution of one or more rows associated with one or more database tables* (Col. 6 Lines 22-29, the write operation having access to the flush operation as a program, the flush operation is *capable of managing a redistribution of one or more rows associated with one or more database tables*);

comparing the allocated buffer to a portion of the buffer to be occupied by the one or more rows (Col. 5 Lines 18-21);

*if the allocated buffer is larger than the portion of the buffer to be occupied by the one or more rows :
storing one or more rows of a database table in the allocated buffer ;*

communicating a message to one or more destination processing modules, the message comprising at least some of the one or more rows stored in the allocated buffer (Because the available memory is smaller than the total size of record, the method go to otherwise condition);

otherwise:

executing a many-rows method to redistribute the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, the partitioning method is considered as *a many-rows method to redistribute the one or more rows* as disclosed from Col. 5 Line 60 to Col. 6 Line 45).

Regarding claim 17, Ross teaches all the claim subject matters as discussed above with respect to claim 10, Ross further discloses the step of *determining the number of transmitting modules on which the program was invoked* (Col. 5 Lines 13-34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross [USP 5,666,525].

Regarding claims 5 and 21, Ross teaches all the claim subject matters as discussed above with respect to claims 1 and 18, Ross does not explicitly teach claimed limitation *the allocated buffer is capable of storing no more than ten (10) rows*. However, as disclosed at Col. 5 Lines 10-12, available memory is that portion which is not allocated to another function or to another user in a multi-user computer system. Thus, during a particular processing time, the available memory is reduced and *capable of storing no more than ten (10) rows*. It would have been obvious for one of ordinary skill in the art at the time the invention was made to include this feature into the available memory in order to partition the available memory.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leverenz [Oracle8i Concept] in view of Ross [USP 5,666,525].

Regarding claim 26, Leverenz teaches a database management system (Page 17, Oracle Server), comprising:

a massively parallel processing system comprising (Page 53, Overview of Parallel Execution):

one or more nodes (Page 53, Overview of Parallel Execution, Oracle System);
a plurality of processors, each of the one or more nodes providing access to one or more processors (Page 53, Overview of Parallel Execution, Oracle System provides access to a plurality of CPUs); and

a plurality of virtual processes, each of the one or more processors providing access to one or more virtual processes (Page 54, Operation That Can Be Parallelized);
a set of one or more database tables residing on the one or more nodes (Page 61, FIG. 26-5, EMP Table); and

one or more of the plurality of virtual processes that allocate a buffer associated with a transmitting processing module (As shown and disclosed at Page 61 FIG. 26-5 and Page 58, How Parallel Execution Servers Communicate, scanning operations as *one or more of the plurality of virtual processes that allocate a buffer associated with ORDER BY operations as transmitting processing module*),
the transmitting processing module having access to a program, the program capable of managing a redistribution of one or more rows associated with one or more database tables (As shown and disclosed at Page 61 FIG. 26-5, ORDER BY operations having access to Parallel Execution Coordinator as *a program*. The Parallel Execution Coordinator redistribute the query results include one or more rows to the user). The missing of Leverenz is the processes of *compare the allocated buffer to a portion of the buffer to be occupied by the one or more rows; if the allocated buffer is larger than the portion of the buffer to be occupied by the one or more rows: store one or more rows associated with a database table in the allocated buffer; communicate a message to one or more destination processing modules, the message comprising at least some of the one or more rows stored in the allocated buffer; otherwise: execute a many-rows method to redistribute the one or more rows.*

Ross teaches a method for redistributing data in a relational data base management system, comprising:

comparing the allocated buffer to a portion of the buffer to be occupied by the one or more rows (Ross, Col. 5 Lines 18-21);

if the allocated buffer is larger than the portion of the buffer to be occupied by the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, "the number of buffers is determined by the total number and size of unique selected records. If the total size of the records to be read from a second input table during a join of two tables is three times the size of the available memory, the memory will be partitioned into three buffers". In different words, if the total size of the records is less than the size of the available memory, the memory will not be partitioned):

storing one or more rows of a database table in the allocated buffer (Ross, Col. 6 Lines 13-15, because the total size of the records is less than the size of the available memory, the *one or more rows of a database table* is written to the available memory);

communicating a message to one or more destination processing modules, the message comprising at least some of the one or more rows stored in the allocated buffer (Ross, Col. 6 Lines 30-45, the records from the available memory is flushed to disk as *message comprising at least some of the one or more rows stored in the allocated buffer* for storing in an output file. The storing operation is considered as *one or more destination processing modules*);

otherwise:

executing a many-rows method to redistribute the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, the partitioning method is considered as *a many-rows method to redistribute the one or more rows* as disclosed from Col. 5 Line 60 to Col. 6 Line 45).

The technique of partitioning the available is a must for Leverenz system in order to manage the available memory.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the teaching of Ross into the Leverenz in order to manage buffers during parallel processing.

Regarding claim 26, Leverenz teaches a database management system (Page 17, Oracle Server), comprising:

a massively parallel processing system comprising (Page 53, Overview of Parallel Execution):

one or more nodes (Page 53, Overview of Parallel Execution, Oracle System);

a plurality of processors, each of the one or more nodes providing access to one or more processors

(Page 53, Overview of Parallel Execution, Oracle System provides access to a plurality of CPUs); and

a plurality of virtual processes, each of the one or more processors providing access to one or more virtual processes (Page 54, Operation That Can Be Parallelized);

a set of one or more database tables residing on the one or more nodes (Page 61, FIG. 26-5, EMP Table); and

one or more of the plurality of virtual processes that allocate a buffer associated with a transmitting processing module (As shown and disclosed at Page 61 FIG. 26-5 and Page 58, How Parallel Execution Servers Communicate, scanning operations as *one or more of the plurality of virtual processes that allocate a buffer associated with ORDER BY operations as transmitting processing module*), *the transmitting processing module having access to a program, the program capable of managing a redistribution of one or more rows associated with one or more database tables* (As shown and disclosed at Page 61 FIG. 26-5, ORDER BY operations having access to Parallel Execution Coordinator as *a program*. The Parallel Execution Coordinator redistribute the query results include one or more rows to the user). The missing of Leverenz is the processes of *compare the allocated buffer to a portion of the buffer to be occupied by the one or more rows; if the allocated buffer is larger than the portion of the buffer to be occupied by the one or more rows: store one or more rows associated with a database table in the allocated buffer; communicate a message to one or more destination processing modules, the message comprising at least some of the one or more rows stored in the allocated buffer; otherwise: execute a many-rows method to redistribute the one or more rows.*

Ross teaches a method for redistributing data in a relational data base management system, comprising:

comparing the allocated buffer to a portion of the buffer to be occupied by the one or more rows (Col. 5 Lines 18-21);

if the allocated buffer is larger than the portion of the buffer to be occupied by the one or more rows :

storing one or more rows of a database table in the allocated buffer ;

communicating a message to one or more destination processing modules, the message comprising at least some of the one or more rows stored in the allocated buffer (Because the available memory is smaller than the total size of record, the method go to otherwise condition);

otherwise:

executing a many-rows method to redistribute the one or more rows (As disclosed by Ross at Col. 5 Lines 13-21, the partitioning method is considered as *a many-rows method to redistribute the one or more rows* as disclosed from Col. 5 Line 60 to Col. 6 Line 45).

The technique of partitioning the available is a must for Leverenz system in order to manage the available memory.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the teaching of Ross into the Leverenz in order to manage buffers during parallel processing.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM T. VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


HUNG Q PHAM
Examiner
Art Unit 2168

November 4, 2006